

Before the  
Federal Communications Commission  
Washington, D.C. 20554

PR Docket No. 93-143

In the Matter of

Amendment of the Maritime Services Rules (Part 80) and Aviation Services Rules (Part 87) to require registration of 406 MHz radiobeacons RM-8008

## REPORT AND ORDER

Adopted: June 13, 1994;

Released: July 6, 1994

By the Commission: Commissioners Ness and Chong not participating.

### I. INTRODUCTION

1. This Report and Order amends Parts 80 and 87 of the Rules, 47 C.F.R. Parts 80 and 87, to require registration of emergency position indicating radiobeacons (EPIRBs) and emergency locator transmitters (ELTs)<sup>1</sup> operating on the frequency 406.025 MHz with the National Oceanic and Atmospheric Administration (NOAA).

### II. BACKGROUND

2. The United States, Canada, France and Russia operate COSPAS/SARSAT<sup>2</sup> satellites which are used to detect and locate ships and aircraft in distress. The COSPAS/SARSAT system is used to detect and locate distress signals from older EPIRBs and ELTs that use analogue signals and operate on the frequencies 121.500/243.000 MHz as well as newer EPIRBs and ELTs that use digital signals and operate on 406.025 MHz.<sup>3</sup> EPIRBs and ELTs that operate on 406.025 MHz transmit a signal that contains, among other things, an identification number that specifically identifies the beacon to aid in search and rescue (SAR) operations. Further, 406 MHz distress signals can be stored on-board

COSPAS/SARSAT satellites and then later retransmitted to a ground station thus eliminating the "blind spots" that exist with the older EPIRBs and ELTs.

3. NOAA maintains a database for 406 MHz EPIRBs that contains more than 13,400 unique identification codes and registration information. Registration by beacon owners in this database is strongly encouraged through education programs by the United States Coast Guard (Coast Guard) and NOAA, but is presently voluntary. Manufacturers are required by rule<sup>4</sup> to program into each EPIRB or ELT a unique code and provide an equipment plate or label on each 406 MHz EPIRB or ELT displaying the unique NOAA identification code and registration instructions. Manufacturers must also include a pre-paid, pre-addressed post card soliciting the owner's name and address, telephone number, the type of ship or aircraft and the unique identification code for registration in NOAA's database. When the distress signal is relayed to a rescue coordination center (RCC) the registration information is available to SAR personnel.

4. On May 11, 1993, the Commission adopted a *Notice of Proposed Rule Making* (Notice)<sup>5</sup> proposing to require registration of emergency radiobeacons, both EPIRBs and ELTs, operating on the frequency 406.025 MHz with the National Oceanic and Atmospheric Administration (NOAA). In response to the *Notice* we received ten comments and one reply comment.<sup>6</sup> All the commenters favor adopting the rule amendment substantially as proposed.

### III. DISCUSSION

5. The commenters overwhelmingly support requiring mandatory registration of EPIRBs and ELTs with NOAA. The National Aeronautics and Space Administration (NASA), developer of the SARSAT system, states that registration is a key part of the 406 MHz system. Various circumstances, such as a crash or sudden sinking resulting in disabling the beacon, blockage of the beacon signal by terrain or structures, or a satellite pass that occurs near the horizon of the distress location can result in a distress alert but insufficient data to obtain a location.<sup>7</sup> Armed with registration information, SAR personnel can call the owner or other point-of-contact provided in NOAA's database. Knowledge of details such as the type and size of the vessel or aircraft, the number of people in distress, and the itinerary of the vessel or aircraft can help SAR personnel to react in a timely and effective manner.<sup>8</sup> In the case of nondistress or inadvertent activations, the registration in-

<sup>1</sup> Emergency position indicating radiobeacon stations are small battery powered transmitters used to send a distress signal that is used as an alerting signal and to assist search and rescue personnel. In the United States such beacons are named emergency locator transmitters (ELTs) when carried on an aircraft and emergency position indicating radiobeacons (EPIRBs) when carried on ships. ELTs and EPIRBs operate on the same internationally allocated frequencies and transmit identical distress signals.

<sup>2</sup> COSPAS is an acronym for a Russian phrase meaning space system for search and distress vessels. SARSAT stands for search and rescue satellite-aided tracking.

<sup>3</sup> Older EPIRBs and ELTs transmit signals on 121.500/243.000 MHz that provide distress alerting and guidance (homing) assistance in emergency situations. The 121.500 MHz signal can only be detected and relayed to search and rescue (SAR) personnel when a COSPAS/SARSAT satellite is in communications range

of both the 121.500 MHz beacon and a ground station known as a Local User Terminal (LUT). There are, therefore, "blind spots" where 121.500 MHz distress signals can not be relayed to a LUT.

<sup>4</sup> See Sections 80.1061(e) and 87.199(e), 47 C.F.R. §§ 80.1061(e) and 87.199(e).

<sup>5</sup> PR Docket No. 92-143, 8 FCC Rcd 3591 (1993).

<sup>6</sup> The following parties filed comments: Air Transport Association, America House, the BOC Challenge, Cruising World, Department of the Air Force, National Aeronautics and Space Administration, National Oceanic and Atmospheric Administration, Mary and Frank Plant, Rodger Martin Yatch Designs, RP Associates, Inc. The Coast Guard filed reply comments.

<sup>7</sup> The 406 MHz satellites require at least three valid transmissions to compute location information on any beacon in any part of the globe. NASA at 2.

<sup>8</sup> Air Force at 1. NOAA at 2.

formation allows SAR personnel to evaluate the situation with a telephone call to the owner or point-of-contact and may eliminate the need to launch costly SAR equipment and personnel to determine the nature of the distress.<sup>9</sup>

6. NASA notes that geostationary satellites planned for the mid 1990's will be capable of receiving 406.025 MHz distress signals. These satellites will serve as an adjunct to the COSPAS/SARSAT system of polar orbiting satellites and will offer potentially significant improvements in the identification of distress situations to global SAR forces.<sup>10</sup> These geostationary satellites will be able to receive a 406.025 MHz distress signal almost instantly, but will not provide position information.<sup>11</sup> Because detecting an alert without position or other identifying information is useless, NASA stresses the importance of mandatory registration, which might provide enough additional information to enable a quick response.<sup>12</sup>

7. Air Transport Association (ATA) states that because ELTs are transferred between aircraft owned by the same company for maintenance and other purposes, that reporting such changes to NOAA will be an administrative burden. They propose ELTs be registered to airline carriers rather than to specific airframes and stated that SAR personnel could contact the airline that owns the ELT for help in identifying the nature of the activation and the individual aircraft identification.<sup>13</sup> The Coast Guard does not object to this proposal provided that the airline carrier provide a 24-hour point of contact that is able to correlate the alert positions and times to specific flights so that distresses can be responded to quickly.<sup>14</sup> The Coast Guard states that a similar procedure is used for commercial fishing industry fleet owners.<sup>15</sup> We agree with the Coast Guard and are adding clarifying language to the rules to address ATA's concerns by specifying that fleet owners must notify NOAA when ownership of the ELT is changed or when other registration information changes.

8. Several commenters support mandatory registration and suggest that it be required at the point-of-sale of the beacon.<sup>16</sup> NOAA, in late filed comments of December 20, 1993, contends that requiring registration before permitting the purchase of an EPIRB or ELT would eliminate the possibility of the beacon being used without a completed registration card.<sup>17</sup> However, there are some potential drawbacks to point-of-sale registration. For example, retailers sell EPIRBs and ELTs world-wide through mail order and do not have immediate access to the registration information. Additionally, buyers may purchase EPIRBs and

ELTs for boats and aircraft they intend to acquire in the future. Further, commercial vessel fleet operators and aircarriers may purchase EPIRBs and ELTs in quantity for future use or for spares. Finally, we did not raise the issue of point-of-sale registration in the *Notice* and there is nothing in the record on how the Commission should require such registration. Therefore, we will not adopt this proposal. In addition, requiring registration at the time of purchase would misplace responsibility for registration on the vendors or retailers instead of on the owner of the beacon.

9. Mandatory registration will help government SAR operations to work better and cost less.<sup>18</sup> Therefore, we are adopting rules that require mandatory registration of beacons. We also are clarifying that registration must take place before installation of the beacon. Finally, we note that NOAA and the Coast Guard have been able to achieve a registration rate of approximately 75 per cent of all beacons sold<sup>19</sup> through education of beacon users. We expect this rate to improve with their continued education efforts and the adoption of mandatory registration.

#### IV. CONCLUSION

10. In summary, we have decided to amend the aviation service rules and the maritime service rules substantially as proposed to require registration of emergency position indicating radiobeacons (EPIRBs) and emergency locator transmitters (ELTs) operating on the frequency 406.025 MHz with NOAA. Amendment of the rules will enhance maritime and aviation safety by providing valuable distress information to SAR personnel concerning the type, size and itinerary of the aircraft/vessel as well as prevent launching potentially dangerous missions on false distress signals. Additionally, we are making minor, editorial amendments to Parts 80 and 87.

#### V. ORDERING CLAUSES

11. Accordingly, IT IS ORDERED that, pursuant to the authority of Sections 4(i), 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 303(r), Parts 80 and 87 of the Commission's Rules, 47 C.F.R. Parts 80 and 87, ARE AMENDED as set forth in the Appendix below, effective **September 13, 1994**.

<sup>9</sup> Typical mission costs of launching a single helicopter to locate and investigate a distress signal are approximately \$4,000. See United States Coast Guard Petition for Rule Making (RM-8008) at 2.

<sup>10</sup> Currently the system has one experimental geostationary satellite located above the Americas at the equator, with Japan, India and Spain planning to place similar geostationary satellites with COSPAS/SARSAT capability into orbit. NASA comments at 4.

<sup>11</sup> Position information is determined by the Doppler shift of a distress signal. Geostationary satellites orbit synchronously with the earth's rotation and are, thus, apparently not moving relative to a beacon's position on the earth's surface. Doppler shift occurs when a polar orbiting satellite passes over a beacon.

<sup>12</sup> Because polar orbiting satellites orbit the earth in approximately 90 minutes and are not evenly spaced, they may not pass over an emergency beacon for up to an hour and a half. A geostationary satellite, however, is capable of detecting beacons anywhere within the satellite's footprint.

<sup>13</sup> ATA at 1.

<sup>14</sup> Coast Guard reply comments at 1.

<sup>15</sup> Coast Guard reply comments at 1.

<sup>16</sup> America House at 1, the BOC Challenge at 1, Cruising World at 1, Department of the Air Force at 2, National Oceanic and Atmospheric Administration at 3, Mary and Frank Plant at 1, Rodger Martin Yacht Designs at 1, RP Associates, Inc. at 1, NOAA late filed comments at 1, Durenburger at 1.

<sup>17</sup> NOAA late filed comments at 1.

<sup>18</sup> Vice President Al Gore, Report of the National Performance Review, From Red Tape to Results: Creating a Government That Works Better and Costs Less (1993). The Vice President's Report stresses serving customers and reducing costs as two of its key principles. This *Report and Order* embraces these principles by seeking ways to use new technologies more efficiently and to reduce the cost of the government's search and rescue costs.

<sup>19</sup> See Pacific Shield, July/August 1993, at 9.

12. IT IS FURTHER ORDERED that this proceeding is TERMINATED.

13. For further information concerning this *Report and Order*, contact James Shaffer, Special Services Division, Private Radio Bureau, (202) 632-7197.

#### FEDERAL COMMUNICATIONS COMMISSION

William F. Caton  
Acting Secretary

#### FINAL RULE

Parts 80 and 87 of Chapter I of Title 47 of the Code of Federal Regulations are amended as follows:

##### Part 80 - STATIONS IN THE MARITIME SERVICES

1. The authority citation for Part 80 continues to read as follows:

**AUTHORITY:** Secs. 4, 303, 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303, unless otherwise noted. Interpret or apply 48 Stat. 1064-1068, 1081-1105, as amended; 47 U.S.C. 151-155, 301-609; 3 UST 3450, 3 UST 4726, 12 UST 2377.

2. Section 80.215 is amended by revising the second sentence in Note 3 to read as follows:

##### § 80.215 Transmitter power.

\* \* \* \* \*

(d) \* \* \*

(1) \* \* \*

Note 3 \* \* \* For cable repair ships operating on radiodetermination frequencies, 15 watts; see § 80.375(b).

\* \* \* \* \*

3. Section 80.1061 is amended by revising the last two sentences of paragraph (e) and revising paragraph (f) to read as follows:

##### § 80.1061 Special requirements for 406.025 MHz EPIRBs.

\* \* \* \* \*

(e) \* \* \* With each marketable EPIRB unit the manufacturer or grantee must include a postage pre-paid registration card printed with the EPIRB identification code addressed to: NOAA/NESDIS, SARSAT Operations Division, E/SP3, Federal Building 4, Washington, D.C. 20233. The registration card must request the owner's name, address, telephone number, type of ship, alternate emergency contact and include the following statement: "WARNING-

failure to register this EPIRB with NOAA before installation could result in a monetary forfeiture being issued to the owner."

(f) To enhance protection of life and property it is mandatory that each 406.025 MHz EPIRB be registered with NOAA before installation and that information be kept up-to-date. Therefore, in addition to the identification plate or label requirements contained in §§ 2.925, 2.926 and 2.1003 of this Chapter, each 406.025 MHz EPIRB must be provided on the outside with a clearly discernable permanent plate or label containing the following statement: "The owner of this 406.025 MHz EPIRB must register the NOAA identification code contained on this label with the National Oceanic and Atmospheric Administration (NOAA) whose address is: NOAA, NOAA/SARSAT Operations Division, E/SP3, Federal Building 4, Washington, D.C. 20233." Vessel owners shall advise NOAA in writing upon change of vessel or EPIRB ownership, transfer of EPIRB to another vessel, or any other change in registration information. NOAA will provide registrants with proof of registration and change of registration postcards.

\* \* \* \* \*

##### Part 87 - AVIATION SERVICES

4. The authority citation for Part 87 continues to read as follows:

**AUTHORITY:** 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303, unless otherwise noted. Interpret or apply 48 Stat. 1064-1068, 1081-1105, as amended; 47 U.S.C. 151-156, 301-609.

5. Section 87.139 is amended by revising paragraph (d) to read as follows:

##### § 87.139 Emission limitations.

\* \* \* \* \*

(d) Except for telemetry in the 1435-1535 MHz band, when the frequency is removed from the assigned frequency by more than 250 percent of the authorized bandwidth for aircraft stations above 30 MHz and all ground stations the attenuation must be at least 43 + 10log10 pY dB.

\* \* \* \* \*

6. In Section 87.199 paragraphs (e) and (f) are revised to read as follows:

##### § 87.199 Special requirements for 406.025 MHz ELTs.

\* \* \* \* \*

(e) An identification code, issued by the National Oceanic and Atmospheric Administration (NOAA), the United States Program Manager for the 406.025 MHz COSPAS/SARSAT satellite system, must be programmed in each ELT unit to establish a unique identification for each ELT station. With each marketable ELT unit the manufac-

turer or grantee must include a postage pre-paid registration card printed with the ELT identification code addressed to: NOAA/NESDIS, SARSAT Operations Division, E/SP3, Federal Building 4, Washington, DC 20233. The registration card must request the owner's name, address, telephone number, type of aircraft, alternate emergency contact and include the following statement: "WARNING-failure to register this ELT with NOAA before installation could result in a monetary forfeiture being issued to the owner."

(f) To enhance protection of life and property it is mandatory that each 406.025 MHz ELT be registered with NOAA before installation and that information be kept up-to-date. In addition to the identification plate or label requirements contained in §§ 2.925, 2.926 and 2.1003 of this Chapter, each 406.025 MHz ELT must be provided on the outside with a clearly discernable permanent plate or label containing the following statement: "The owner of this 406.025 MHz ELT must register the NOAA identification code contained on this label with the National Oceanic and Atmospheric Administration (NOAA) whose address is: NOAA, NOAA/SARSAT Operations Division, E/SP3, Federal Building 4, Washington, D.C. 20233." Aircraft owners shall advise NOAA in writing upon change of aircraft or ELT ownership, or any other change in registration information. Fleet operators must notify NOAA upon transfer of ELT to another aircraft outside of the owners control, or an other change in registration information. NOAA will provide registrants with proof of registration and change of registration postcards.

\* \* \* \* \*